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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/057,143
Filing Date: January 25, 2002
Appellant(s): CASATI ET AL.

Philip S. Lyren
(Reg. No. 40,709)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed July 14, 2008 appealing from the Office action mailed February 11, 2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

NEW GROUND(S) OF REJECTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 15-26 are rejected under 35 U.S.C. 101 because 1 recites a process that is directed towards non-statutory subject matter.

In order for a method to be considered a "process" under §101, a claimed process must either: (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials). *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972). If neither of these requirements is met by the claim, the method is not a patent eligible process under §101 and is non-statutory subject matter.

Claims 15-26 recite a "method for predicting exceptions" which fails to (1) be tied to another statutory class and (2) transform underlying subject matter. The recited claims fail recite any structural elements that would tie the method claims to another statutory class. Furthermore, no transformation of any physical object is completed during the recitation of the present invention. As such, the present invention is directed towards non-statutory subject matter and is rejected under 35 U.S.C. 101.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

Casati, Fabio; Ceri, Stefano; Paraboschi, Stefano; Pozzi, Giuseppe; "Specification and Implementation of Exceptions in Workflow Management Systems", ACM Transaction on Database Systems, September 1999

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 101

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Claims 15-26 recite a "method for predicting exceptions" which fails to (1) be tied to another statutory class and (2) transform underlying subject matter. The recited

claims fail recite any structural elements that would tie the method claims to another statutory class. Furthermore, no transformation of any physical object is completed during the recitation of the present invention. As such, the present invention is directed towards non-statutory subject matter and is rejected under 35 U.S.C. 101.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 21-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 21 recites the feature of "selectively removing input data to refine the classification rules". The scope of this limitation, as defined by the Specification, fails to guide a user on how to "selectively" decide whether to remove a data value or not. As such, claim 21 is not enabling.

Claim 22 recites the same subject matter as claim 21 and is rejected for the same reasons discussed above.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Casati et al. (Casati, Fabio; Ceri, Stefano; Paraboschi, Stefano; Pozzi, Giuseppe; "Specification and Implementation of Exceptions in Workflow Management Systems", *ACM Transaction on Database Systems*, September 1999) (*previously cited and provided).*

As per claim 15, Casati teaches "a method for predicting exceptions in a workflow instance comprising: the steps of: preparing data from past workflow executions" (see pp. 424 and 447; where data from previously executed workflows is used in modeling workflow behavior.), "generating at least one exception prediction model based on the prepared data" (see pp. 424 and 447; where the implementation of an exception prediction model derived from previously executed workflows is done.), "using the exception prediction model to generate at least one prediction of an exception before the exception occurs for a current instance of the workflow instance" (see pp. 406-408 and 419-424; where predictions of exceptions are done before their occurrence thereby enabling the handling of that exception.), and "performing an action during execution of the workflow instance to avoid occurrence of the exception in the workflow instance" (see pp. 417-420; where examples of actions that are performed in order to avoid an exception are described. The system has predefined reactions to the

triggering of an exception. An exception class enables the system to react to conditions during workflow execution such that an exception can be avoided.).

As per claim 16, Casati teaches:

The method of claim 15 wherein the exception prediction includes the steps of:

Building a process analysis table for a process definition of interest (see Figures 1 and 2; where a process analysis table for specific processes are defined.);

Adding labeling information to the process analysis table (see Figures 1 and 2; where the tables are labeled.);

Generating classification rules by employing data mining techniques (see pp. 406-407, 419-424 and 438-440; where classification rules are created by using historical data.).

As per claim 17, Casati teaches:

The method of claim 15 wherein classification rules are generated for each stage in a process and are stored in a repository (see pp. 406-407 and 419-424; where the rules are stored in a repository.).

As per claim 18, Casati teaches:

The method of claim 17 wherein at least one classification rule set generated for a process execution stage is executed to make predictions on at least one running process instance (see pp. 406-407 and 419-424; where the rules are run against running process instances.).

As per claim 19, Casati teaches:

The method of claim 18 wherein at least one prediction is stored in the repository includes the exception being predicted and an indication of an accuracy of the prediction (see pp. 419-424 and 433-434; where the predicted rules are being stored in the repository and there is a level of accuracy associated with them.).

As per claim 20, Casati teaches:

The method of claim 15 wherein the at least one prediction is reported to a workflow management system (WfMS) so that the WfMS alters execution of the processes to try to avoid the exception (see pp. 406-407 and 419-424; where the occurrence of an exception is reported and the process definition is alter to account for the predicted exception.).

As per claim 21, Casati teaches:

Reporting classification rules to a user (see p. 424; where the classification rules are in a table accessible to the user. This is the same as reporting the rules to the user.);

Selectively removing input data to refine the classification rules (see p. 424; where rules are adjusted based on execution of the workflow.);

Re-generating the classification rules by employing data mining techniques (see pp. 406-407, 419-424 and 438-440; where classification rules are adjusted based on logged workflow executions.)

As per claim 22, Casati teaches:

The method of claim 21 wherein when the classification rules are satisfactory to the user, storing the classification rules in a database (see pp. 406-407, 419-428 and 438-440; where the classification rules can be stored in a relational database.).

Claims 23-25 recite limitations already addressed by the rejections of claims 15-22; therefore the same rejections apply to these claims. Examiner notes that the steps of "generating prediction rules" and determining a "threshold" recited in claim 23 are the same as the modeling of the exception prediction, since a model includes rules and conditions with thresholds.

As per claim 26, Casati teaches:

The method of claim 15 further comprising, refining the at least one prediction as process execution of the workflow instance proceeds (see p. 424; where rules are adjusted based on execution of the workflow. Adjustment of the rules is the same as adjusting the exception prediction since the rules are defined as exception conditions.).

(10) Response to Argument

Appellants argue:

1. The present invention is fully enabled and therefore complies with 35 U.S.C. 112 1st paragraph (see Appeal Brief page 10).
2. Casati fails to teach "predicting exceptions before they occur or performing actions to avoid predicted exceptions before they occur" (see Appeal Brief page 12 and 13), as per claims 15-22, 23-25, and 26.

3. Casati teaches away from the present invention.

Examiner first notes that Casati, a 102(b) prior art written by the inventor of the present invention, explicitly teaches claim 15 and 23 where "a method for predicting exceptions in a workflow instance comprising: the steps of:"

- preparing data from past workflow executions" (see pp. 424 and 447; where data from previously executed workflows is used in modeling workflow behavior.),
- generating at least one exception prediction model based on the prepared data (see pp. 424 and 447; where the implementation of an exception prediction model derived from previously executed workflows is done.),
- using the exception prediction model to generate at least one prediction of an exception before the exception occurs for a current instance of the workflow instance (see pp. 406-408 and 419-424; where predictions of exceptions are done before their occurrence thereby enabling the handling of that exception.),
- performing an action during execution of the workflow instance to avoid occurrence of the exception in the workflow instance (see pp. 417-420; where examples of actions that are performed in order to avoid an exception are described. The system has predefined reactions to the triggering of an exception. An exception class enables the system to react to conditions during workflow execution such that an exception can be avoided.).

1. The present invention is not fully enabled and therefore fails to satisfy 35 U.S.C. 112 1st paragraph.

In response to Applicants' argument the term "selectively" as recited in claims 21-22 are fully enabled by the disclosure (see Remarks page 5), Examiner respectfully disagrees. As discussed in the previously submitted rejection, claims 21-22 recite the step of "selectively removing input data". The original disclosure is silent as to how a user would perform this step. There is nothing in the Specification or the originally submitted claims that suggest what criteria or manner a user would use to determine which data to remove. Applicants point to page 14, 16 and figure 4 in support of this feature, but Examiner finds no disclosure as to how a user selectively determines to remove input data. These cited passages merely state that "obvious and not interesting" data are removed, however, fail to provide any guidance as to what "obvious and not interesting" data is. Thus, the present invention would require one of ordinary skill in the art undue experimentation to adequately perform the present invention. Further, these sections of the Specification describe generating classification rules, but are silent as to how a user decides which data to remove to refine the classification rules. As such, this feature is not enabled and is properly rejected under 35 U.S.C. 112 1st paragraph.

Appellants further argue that the present invention complies with the written description portion of 35 U.S.C. 112 1st paragraph, however, Examiner has not made any such rejection. Thus, Appellants arguments are moot with respect to a written description rejection are moot.

2. Casati explicitly teaches "predicting exceptions before they occur or performing actions to avoid predicted exceptions before they occur" (see Appeal Brief page 12 and 13), as per claims 15-22, 23-25, and 26.

Applicants' specifically argue that Casati deals with handling exceptions after they have occurred whereas the present invention deals with predicting exceptions before they occur. Examiner submits that handling exceptions after the occur requires knowledge of the exception and the possibility of occurrence before the exception occurs. It is clear from Casati that certain exceptions are known and the process of handling these exceptions is determined prior to execution of the workflow (see Casati pp. 418-419; where specific objects and modules are implemented to handle certain exceptions prior to their occurrence.). Thus, although Casati focuses on handling exceptions after their occurrence, Casati also deals with predicting the occurrence of exceptions and mapping processes to handle the exception. By handling the exception, Casati is effectively avoiding the exception. Applicants' also argue that Casati has nothing to do with performing an action after a threshold has been crossed. Examiner respectfully submits that the use of conditions and triggers taught by Casati (see Casati pp. 415 and 418) is the same as a threshold since a particular parameter must be present in order to evaluate the expressions as true in both terms.

Appellants further argue that Examiner's statement of "by handling the exception, Casati is effectively avoiding the exception" is incorrect (see Appeal Brief page 13). Appellants are merely playing a word game. It is clear from Casati that Casati teaches knowing what exceptions may occur and therefore planning for it (see pp. 417-420).

Appellants out of context statements of Casati only addresses exceptions after they occur ignores the fact that Casati can address these exceptions after their occurrence because they had been planned for *before* their occurrence.

3. Casati teaches away from the present invention.

Applicants' specifically argue that Casati "repeatedly states that exceptions cannot be predicted" (see Appeal Brief page 13). Examiner has carefully reviewed Casati and has not found anything in Casati to suggest that exceptions cannot be predicted. Applicants' specifically cite to passages on pages 406 and 411, however, Examiner notes that these passages are taken out of context. Casati explains in the passage on page 406 that expected exceptions are unpredictable as to when or where in the workflow they will occur. This does not teach away that the fact that expected exceptions, as the name suggests, will occur and workflow processes can be implemented to handle these exceptions. On page 411, after Casati states that "such situations...are asynchronous", Casati further explains that workflow management systems need to consider such situations and be designed to handle the typical exceptions. This suggests that typical exceptions are predictable so much so that the workflow systems are designed to account for these predicted exceptions. As such, Casati specifically teaches towards predicting exceptions will occur and suggests methods to handle the occurrence of these exceptions.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

This examiner's answer contains a new ground of rejection set forth in section **(9)** above. Accordingly, appellant must within **TWO MONTHS** from the date of this answer exercise one of the following two options to avoid *sua sponte* **dismissal of the appeal** as to the claims subject to the new ground of rejection:

(1) **Reopen prosecution.** Request that prosecution be reopened before the primary examiner by filing a reply under 37 CFR 1.111 with or without amendment, affidavit or other evidence. Any amendment, affidavit or other evidence must be relevant to the new grounds of rejection. A request that complies with 37 CFR 41.39(b)(1) will be entered and considered. Any request that prosecution be reopened will be treated as a request to withdraw the appeal.

(2) **Maintain appeal.** Request that the appeal be maintained by filing a reply brief as set forth in 37 CFR 41.41. Such a reply brief must address each new ground of rejection as set forth in 37 CFR 41.37(c)(1)(vii) and should be in compliance with the other requirements of 37 CFR 41.37(c). If a reply brief filed pursuant to 37 CFR 41.39(b)(2) is accompanied by any amendment, affidavit or other evidence, it shall be

treated as a request that prosecution be reopened before the primary examiner under 37 CFR 41.39(b)(1).

Extensions of time under 37 CFR 1.136(a) are not applicable to the TWO MONTH time period set forth above. See 37 CFR 1.136(b) for extensions of time to reply for patent applications and 37 CFR 1.550(c) for extensions of time to reply for ex parte reexamination proceedings.

Respectfully submitted,

/Jeffrey A. Smith/

Supervisory Patent Examiner, Art Unit 3625

A Technology Center Director or designee must personally approve the new ground(s) of rejection set forth in section (9) above by signing below:

Conferees:

/KALYAN DESHPANDE/

Kalyan Deshpande
AU 3625

/J. A. S./

Supervisory Patent Examiner, Art Unit 3625

/Vincent Millin/

Appeals Practice Specialist, TC 3600

Katherine L Matecki

APPROVED BY DIRECTOR
KATHERINE MATECKI